UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	09/824,527	JOHNSON, KIRK
	Examiner	Art Unit	
	BENJAMIN R. BRUCKART	2446	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 March 2009*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-51 and 61-83* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-51 and 61-83* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *13 July 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

Claims 1-51, and 61-83 are pending.

Claims 1, 19, 35, 40, 45, and 47 are independent.

Claims 52-60 remain cancelled.

Claims 1, 8, 19, 22, 25, 35, 37, 40, 42, 45, 47, 49, 73, 82-83 are amended.

Please note the new examiner of record on the case (see conclusion below).

Response to Arguments

Applicant's arguments filed in the amendment filed 3/31/09, have been fully considered but are moot in view of new grounds of rejection. The reasons set forth below.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 1, 19, 35, 40, 45, 47 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Each claim recites the limitation "adds to the candidate server list extra servers… beyond the number of servers selected based on weight." This function of adding beyond a number is indefinite.

Applicant's invention as claimed:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-7, 11-16, 18-24, 28-30, 32, 33, 35, 36, 38, 39-41, 43-48, 50, 51, 62, 64, 66, 68, 70, 72, 74-79, and 84-89 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Pub. No. 2001/0039585 by Primak et al in view of U.S. Patent No. 6,078,960 by Ballard.

Referring to claim 1, Primak discloses a system for optimizing server selection for clients from

among a plurality of servers in a packet communication network (Figure 1; abstract), the system

comprising:

a plurality of servers for alternatively responding to client requests (Figure 1, reference

characters 30a-e);

a central server (DNS server) that maintains server selection weights (i.e. capacity

information), and, based on the weights, provides in response to a client request (i.e. *on receipt*

of a client query), a candidate server list (i.e. either all or a subset of DNS agents on the server

cluster zones for which the DNS server 10 has received server selection weight information) for

responding to a client request to a network node (i.e. the DNS server) adapted to interrogate (i.e.

ping as stated by Applicant on page 8 of the disclosure) the individual servers represented in the

candidate server list, the central server receiving feedback (i.e. measurement statistics) indicating

service by individual servers in response to client requests by the individual servers (i.e. via the

DNS agents 32 of each cluster) and modifying the server selection weights based on the

feedback (Figure 1; abstract; p. 2, ¶ 25; p. 3, ¶ 31). Primak furthermore discloses comprising a

DNS server 10 which receives the client request from the client (p. 2, ¶ 25); and based on the

client requests, forwards the client requests to the central server (since the central server is part

of the DNS server, it inherently forwards this request to the server when a resolution is to be made based on the server cluster).

Primak does not specifically returning a candidate list of at least two candidate servers back to a DNS from the central server.

However, in analogous art, the Ballard reference teaches generating a plurality of eligible server lists and candidate server lists (Ballard: col. 6, line 49-64), the central server adds to the candidate server list extra servers that are selected from among the servers represented by the weights, beyond the number of servers selected based on the weights (Ballard: col. 6, line 49-64) in order to provide the most updated list of servers for reliable and flexible load balancing (Ballard: col. 6, line 49-64; col. 1, lines 31-41).

It would have been obvious to one of ordinary in the art at the time of the invention to create the invention of Primak to include updated server lists as taught by Ballard in order to provide the most updated list of servers for reliable and flexible load balancing (Ballard: col. 6, line 49-64; col. 1, lines 31-41).

Regarding claim 2, the system according to claim 1 further comprising a DNS server, the NDS server:

> receives the client request from the client (p. 2, ¶ 25);

> based on the client requests, forwards the client requests to the central server (page 3, para 31)

Referring to claim 3, Primak discloses the invention substantively as described in claim 2. Primak further discloses interrogating candidate servers in the candidate server list (p. 2, ¶ 25).

Referring to claim 4, Primak discloses the invention substantively as described in claim 3. Primak further discloses selecting a candidate server based on the interrogation (p. 3, ¶ 31).

Referring to claim 5, Primak discloses the invention substantively as described in claim 4. Primak further discloses indicating to the selected candidate server that it has been selected to provide service to the requesting client (it is inherent that when the client sends its request to the

selected candidate server via a redirection packet, the server will know that it has been selected to provide service to the requesting client, since the only way for the client to be serviced by the particular server in the cluster is to request the address from the DNS server) (p. 3, ¶ 31).

Referring to claim 6, Primak discloses the invention substantively as described in claim 3. Primak further discloses the DNS server returns to the requesting client the address of the first server to respond to the interrogation (Primak uses this term as the "shortest RTT" or Round Trip Time; since all interrogation requests are sent virtually simultaneously, it would be deduced that the server with the lowest RTT would be the first server to respond to the interrogation) (p. 3, ¶ 29).

Claim 7 is rejected for similar reasons as stated above.

Referring to claim 11, Primak discloses each candidate server in the candidate server list is unique from each other candidate server in the list (i.e. there are no duplicate servers returned to the client, merely only ones which are above threshold) (Figure 1; p. 2, ¶ 23; p. 3, ¶ 31).

Referring to claim 12, Primak discloses the feedback occurs at a requested event (i.e. when requested to by the DNS server) (p. 3, ¶ 27-29).

Referring to claim 13, Primak discloses the weights are based on a bias factors to reduce convergence time, the bias factors including geographical location (Primak discloses returning the server with the shortest RTT, or round trip time, the server geographically closest to the client will have the higher RTT, and thereby be biased towards that particular server in the weighting of the servers) (p. 2, ¶ 29).

Referring to claim 14, Primak discloses the invention substantively as described in claim 1, however does not specifically state the weights sum to one, however it is well known that many routing systems utilize a percentage system allocating x percent to a particular server, y percent to another server, etc. These percentages result in a totality of 100 percent, which equals one.

By this rationale, "Official Notice" is taken that providing the weights sum to one is well known and expected in the art. It would have been obvious to one of ordinary skill in the art to modify the teaching of Primak to include the weights summing to one in order to reduce complexity of the system. See Logan mentioned below.

Referring to claim 15, Primak discloses the invention substantively as described in claim 1. Primak does not disclose the central server includes vectors of server selection weights for subsets of clients. However, it is common knowledge that a DNS server caches certain aspects of a client's session with a server (i.e. maintains state information and would be able to redirect to an appropriate server if the client has an affinity towards that particular machine, either geographical or security). Taken in context with the invention disclosed in Primak, it would have been obvious to one of ordinary skill in the art to include caching weights of servers for particular clients for faster redirection and less transactional overhead.

Referring to claim 16, Primak discloses the central server includes multiple central servers organized as a distributed system (p. 2, ¶ 25).

Referring to claim 18, Primak-Ballard discloses the candidates represented in the candidate server list are pseudo-randomly selected based on the weights (they are based on feedback received from the servers, which factor upon the current loads of the servers, thereby providing a randomness to the selection factor, there is no actual scheme, such as round-robin, to select the next server, thereby it is considered a pseudo-random selection) (Primark: e.g. abstract; Leighton: "random priority list of desired servers", see rejections above).

Claims 19-24, 28-30, 32, 33, 35, 36, 38, 39-41, 43-48, 50, 51, 62, 64, 66, 68, 70, 72, 74-79, and 84-89 are rejected for similar reasons as stated above. Furthermore Primak discloses the servers include multiple servers organized as a distributed system (i.e. server clusters) (Figure 1). Primak discloses the DNS interrogating the candidate servers to measure server capacity information (i.e. server congestion) (p. 2, ¶ 23). Primak does not specifically disclose that the weights sum to one, however this is supplied in U.S. Patent No. 6,578,066 by Logan (Table V,

col. 9: "traffic dist" used as percentages). Primak furthermore discloses the network node (i.e.

DNS server) choosing the server from the candidate server list based on probes (i.e. see rejection

above).

**Claims 17, 34, and 80 are rejected under 35 U.S.C. 103(a) as being unpatentable
over Primak in view of U.S. Patent No. 6,078,960 by Ballard in further view of Meek et al.
(USPN 6,539,426) (hereinafter Meek).**

Referring to claim 17, Primak-Ballard discloses the invention substantively as described in claim

1.

Primak-Ballard does not disclose the client interrogates the candidate servers in the list to

measure network performance.

Meek discloses another load balancing method wherein client interrogates the candidate

servers in the list to measure network performance (col. 10, lines 6-27).

It would be obvious to a person of ordinary skill in the art at the time the invention was

made to combine the teaching of Meek with Primak-Ballard to adequately provide business

applications programs that are distributed amongst the servers in the network providing

redundancy and increased application usage as supported by Meek (col. 1, lines 45-50).

Claims 34 and 80 are rejected for similar reasons as stated above.

**Claims 8-10, 25-27, 37, 42, 49, 73, and 81-83 are rejected under 35 U.S.C. 103(a) as
being unpatentable over Primak in view of U.S. Patent No. 6,078,960 by Ballard in further
view of Guenthner et al. (USPN 6,134,588) (hereinafter Guenthner).**

Referring to claim 8, Primak in view of Ballard discloses the invention substantively as

described in claim 1.

Primak in view of Ballard does not disclose extra servers are selected randomly.

In analogous art, Guenthner discloses selecting extra servers randomly (e.g. abstract;

Figure 8; col. 8, lines 25-50).

It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Guenthner with Primak-Ballard to provide a client-side solution to ensure availability of Web services to a Web browser as supported by Guenthner (col. 1, lines 65-67).

Referring to claims 9 and 10, Primak-Ballard discloses the invention substantively as described in claim 1.

Primak-Ballard does not disclose the randomly selected candidate servers are a fixed number/percentage (a percentage is a number) beyond the number of servers selected based on the weights.

Guenthner discloses including randomly selected servers based on the weighting (e.g. abstract; Figure 8; col. 8, lines 25-50).

It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Guenthner with Primak to provide a client-side solution to ensure availability of Web services to a Web browser as supported by Guenthner (col. 1, lines 65-67).

Claims 25-27, 37, 42, 49, 73, and 81-83 are rejected for similar reasons as stated above.

Claims 61, 63, 65, 67, 69, and 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Primak in view of U.S. Patent No. 6,078,960 by Ballard in further view of Lin (USPN 6,298,451).

Referring to claim 61, Primak-Ballard discloses the invention substantively as described in claim 1.

Primak-Ballard does not specifically disclose the client is the node adapted to interrogate individual servers.

In analogous art, Lin discloses another system for optimizing server selection which discloses a client interrogating servers from a candidate server list (col. 5, lines 7-19; col. 6, lines 15-39).

It would have been obvious to one of ordinary skill in the art to combine the teaching of Lin with Primak-Ballard in order to reduce the load off of the DNS server of Primak-Ballard in order to allow the client, which is less loaded than a DNS server, the task of determining if a candidate server is available, thereby reducing overhead transactions on the DNS server, thereby allowing more efficient processing of incoming DNS requests.

Claims 63, 65, 67, 69, and 71 are rejected for similar reasons as stated above.

REMARKS

Applicant has presented amendments the claims including features of formerly claim 8 with arguments. It is noted that applicant's arguments about size list are equivalent to arguing unclaimed features because the claim limitations do not claim particular sizes just adding to a list and that the list has some random selected criteria.

The examiner finds the newly amended limitation to be confusing and non-sensical. The examiner requests clarifying the language.

Conclusion

Applicant has failed to seasonably challenge the Examiner's assertions of well known subject matter in the previous Office action(s) pursuant to the requirements set forth under MPEP §2144.03. A "seasonable challenge" is an explicit demand for evidence set forth by Applicant in the next response. Accordingly, the claim limitations the Examiner considered as "well known" in the first Office action, are now established as admitted prior art of record for the course of the prosecution. See In re Chevenard, 139 F.2d 71, 60 USPQ 239 (CCPA 1943).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENJAMIN R. BRUCKART whose telephone number is (571)272-3982. The examiner can normally be reached on 9:00-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey C. Pwu can be reached on (571) 272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Benjamin R Bruckart
Examiner
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